

AQUACULTURE BIOSECURITY

FEED



HOW FEED CAN SPREAD DISEASE ON YOUR FARM

Food for aquatic animals can be a potential pathway for the introduction of infectious diseases. Several types of feed are used in aquaculture, depending on the species and life-stage being reared. Contamination with pathogens (e.g., bacteria, viruses, fungi, parasites) can occur during production, storage, transport, or on-farm handling of feeds.

The greatest risks are from live, semi-processed, raw, or frozen food organisms (e.g., algae, zooplankton, invertebrates, and vertebrates, such as live forage minnows) and their transport water. If these food organisms are sourced from infected environments, they can transfer pathogens to your farm stock.

Manufactured feed products (e.g., pellets, crumbles) are generally lower risk since the production process kills pathogens. However, improper storage, use, and handling can lead to mold, bacterial growth, and nutritional degradation, which can impact your animal's susceptibility to disease.



HOW TO MANAGE AND PREVENT INFECTIOUS DISEASE INTRODUCTION

General Biosecurity for Aquatic Animal Feed

- Work with an aquatic animal health professional and feed supplier to identify risks and ensure feed quality and quantity are adequate for your stocks' nutritional requirements.
- Obtain all feed from reputable suppliers who have biosecurity measures in place at their facilities and test for pathogens if warranted.
- Keep records of feed sources, dates received, manufacturer expiration dates, and lot numbers for traceability purposes.
- Store all feed according to manufacturer or supplier recommendations.
- Always use clean equipment when handling, moving, and feeding your farm stock. Contaminated equipment can be a pathway for disease introduction.
- Designate specific equipment solely for feeding purposes.



- Periodically clean and disinfect feed delivery equipment to reduce buildup that can support pathogen growth.
- Have employees wash their hands before and after handling feed.

Biosecurity for Live or Aquatic Animal-based Feeds

- Obtain live feed from sources with biosecurity measures in place at their facilities.
- When possible, test feed sources to confirm they are free of pathogens of concern for your farmed aquatic animals.
- Purchase frozen or semi-processed feed as fresh as possible and ensure proper storage.
- Regularly disinfect live feed culture containers.



Biosecurity for Processed Feeds

- Store processed feeds according to manufacturer recommendations (e.g., in a cool, dry place, sealed containers, elevated off the floor).
- Use feed before its expiration date to ensure macronutrient, vitamin, and mineral stability.
- Use the “first in, first out” principle – use the oldest feed before newer batches – to prevent spoilage and maintain feed quality.
- Prevent vermin or pests (e.g., rodents, birds, insects) from accessing feed.
- Inspect feed often for mold, deterioration, or contamination.



BIOSECURITY ASSESSMENT CHECKLIST

Use the following checklists to identify biosecurity actions you currently use or can use to manage and reduce disease introduction risks from feed used for your animals.

General Biosecurity for Aquatic Animal Feed

YES	NO	BIOSECURITY QUESTION
Y	N	Is feed for the farm obtained from reputable suppliers that implement biosecurity measures?
Y	N	Are records kept on feed for the farm (e.g., source, date received, expiry date, lot numbers)?
Y	N	Is any equipment used to handle or move food cleaned and disinfected before use?
Y	N	Do you use equipment solely dedicated to feeding purposes?
Y	N	Do employees wash their hands before and after handling food?

Biosecurity for Live or Aquatic Animal-based Feeds

YES	NO	BIOSECURITY QUESTION
Y	N	Are live feed sources obtained from sources with biosecurity measures at their facility?
Y	N	Are live feed sources tested (when applicable) and confirmed to be free of pathogens of concern for species on your farm?

YES	NO	BIOSECURITY QUESTION
Y	N	Do you try to obtain as fresh as possible frozen or semi-processed feed?
Y	N	Do you ensure proper storage of frozen or semi-processed feed?
Y	N	Are live food culture containers regularly disinfected?

Biosecurity for Processed Feeds

YES	NO	BIOSECURITY QUESTION
Y	N	Is processed feed stored according to manufacturer recommendations?
Y	N	Is processed feed used before expiration to ensure vitamin and mineral stability?
Y	N	Is the oldest feed used before newer batches (e.g., “First In, Feed First”)?
Y	N	Is processed feed kept in a manner to prevent access by vermin or pests (e.g., rodents, birds, insects)?
Y	N	Is processed feed checked frequently for mold, deterioration, or contamination?
Y	N	Are feed spills in storage areas and around production areas cleaned up immediately?

FOR MORE INFORMATION

Find additional resources on the [Aquaculture Farm Biosecurity website](#), including disease transmission pathway tip sheets, videos, biosecurity assessment questions, a biosecurity plan template, and farm biosecurity signs.



Photo credits: AdobeStock; Eugene Burreson/Virginia Institute of Marine Science; U.S. Fish and Wildlife Service, Shutterstock

Acknowledgment: Development of this material was made possible through a grant provided to the Center for Food Security and Public Health at Iowa State University, College of Veterinary Medicine from the USDA Animal and Plant Health Inspection Service National Animal Disease Preparedness and Response Program (NADPRP).